

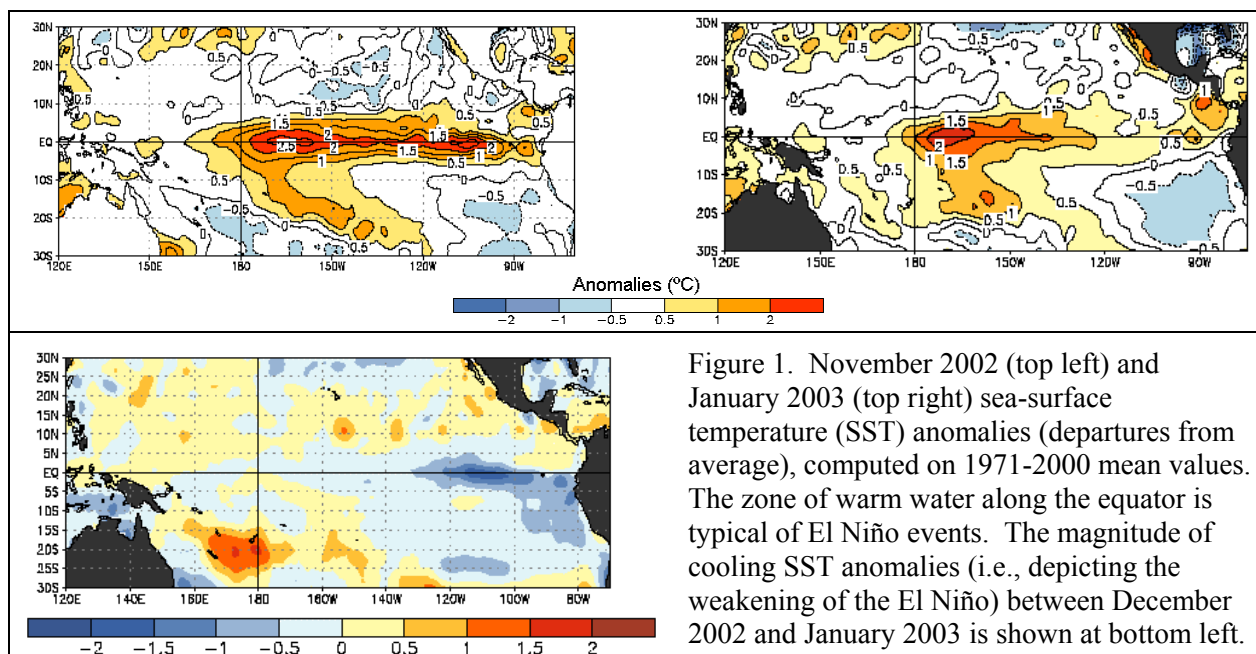
#### Highlights:

- The El Niño event appears to be weakening, but it's too early to know whether it is ending.
- Comparisons with two recent moderate El Niño events suggest that this current El Niño may extend well into 2004, peaking in the first quarter of next year.
- Drier-than-normal conditions are likely to persist across much of the subcontinent throughout the remainder of the 2003 growing season.
- Mid-growing-season rainfall accumulations continue to show deficiencies across much of the subcontinent.
- Tropical cyclones Delfina and Fari may have lifted drought conditions in parts of the region, but concomitantly associated flooding has destroyed some maize areas and damaged others.
- WFP's forecast for the remainder of the growing season suggest that with a few exceptions, rainfed maize yields can be expected to be low, due both to drought and flood losses. There is no prospect of a relief of the emergency situation.
- Indeed, current conditions and the forecast suggest a need for enhanced operations during 2003.

*This edition of the Bulletin contains an update of the state of the current El Niño event, shows how the region's growing-season rainfall is being affected, provides a snapshot of the tropical-cyclone induced flooding in northern Mozambique, and **offers a forecast of maize yield potential for the current growing season.***

#### Current El Niño Conditions

Sea surface temperature (SST) anomalies (departures from average) **decreased** across the Pacific in January (Figure 1).<sup>1</sup> This indicates a weakening of the El Niño event.



**This does not mean that we can conclusively state that the El Niño and its effects are over.** The current El Niño event's magnitude compared to the seven strongest events measured since 1950 is

<sup>1</sup> [http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/enso\\_advisory/](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/)

shown in (Figure 2).<sup>2</sup> Note that several of the more recent El Niño events (1982/83, 86/87, and 91/92) took longer to mature, typically reaching their peaks in the spring of the second year. Since the current event is fairly closely tracking the 86/87 event, the possibility exists that this El Niño will again strengthen and extend into 2004.

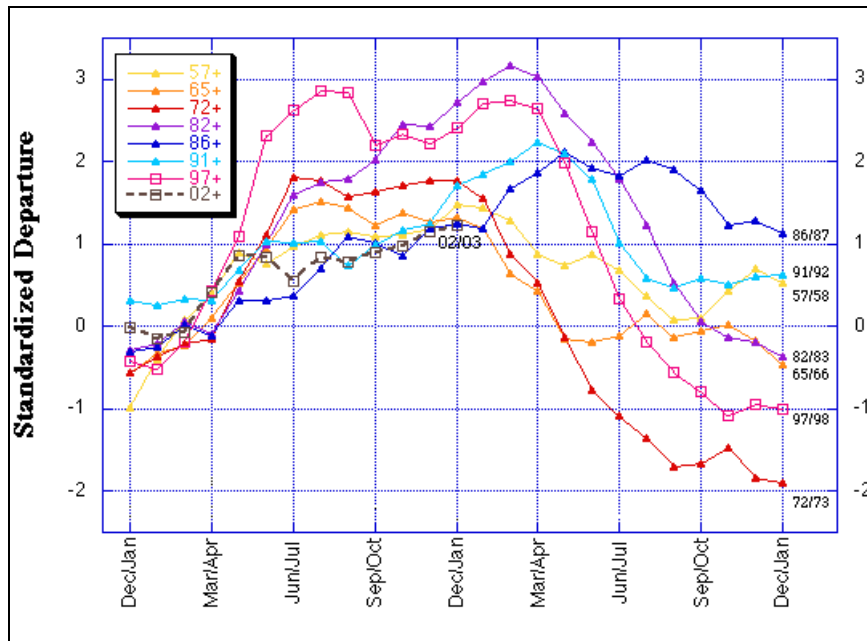


Figure 2. A comparison of the current El Niño event (keyed 02+) with the seven strongest events since 1950. The data points conform to a “multivariate ENSO index,” consisting of a weighted average of the following six variables: sea-level pressure, the east-west and north-south components of the surface wind, sea-surface and surface air temperatures, and total amount of cloudiness.

### ***Growing Season Rainfall: August - November, 2002***

Figure 3a shows dry conditions to have prevailed during the last months of 2002 across much of the sub-region. Across nearly all of southern Africa, late 2002 has been drier even than the same period during 2001, a notably “dry” year, as Figure 3b depicts. Compared to the 1992-93 and 1986-87 El Niño events, the latter stages of 2002 proved to be drier over much of the sub-region, the major exceptions being northern Mozambique, Malawi, eastern Zambia, and Madagascar (Figures 3c and 3d).

The extent of the current rainfall deficit can best be seen in Figures 3e (absolute difference compared to “normal”) and 3f (percent difference compared to “normal”). **There is sound reason to continue to be alarmed**, since the entire subcontinent, including Madagascar, with the exceptions of north western Angola, northern Tanzania, southwestern South Africa, and southernmost Namibia have been **drier or much drier this current growing season than “normal.”** Some areas of agricultural drought will have been relieved by tropical cyclone Delfina over the New Year, as well as the late-January and early-February near-daily rains over northern Mozambique derived from the remains of Cyclone Fari, but these rains may have come too late, and in too great a downpour, to be effective. In many cases, they are known from local reports to have caused flooding and loss of standing crops.

<sup>2</sup> [http://www.cdc.noaa.gov/ENSO/enso.mei\\_index.html](http://www.cdc.noaa.gov/ENSO/enso.mei_index.html)

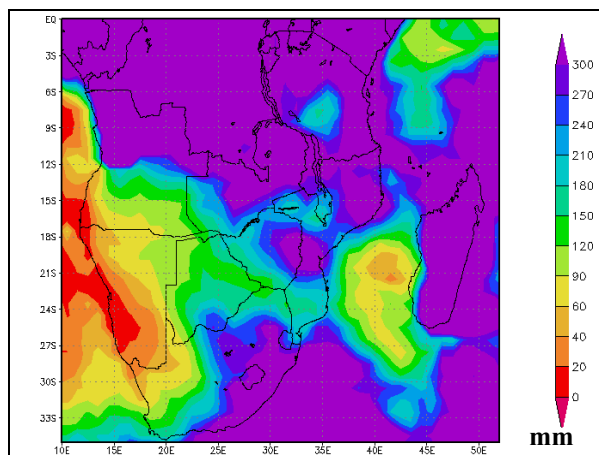
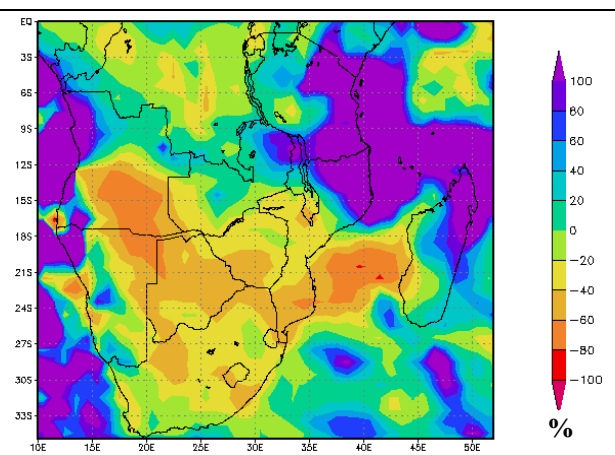


Figure 3a. August – December 2002 rainfall **accumulations** derived from microwave and infrared satellites, and corrected by ground-level observations. Source: NASA-DAAC.



August – December 2002 rainfall **departures** compared to the same months in 2001, i.e., normalized to show  $(2002 - 2001)$  percent difference. Source: NASA-DAAC.

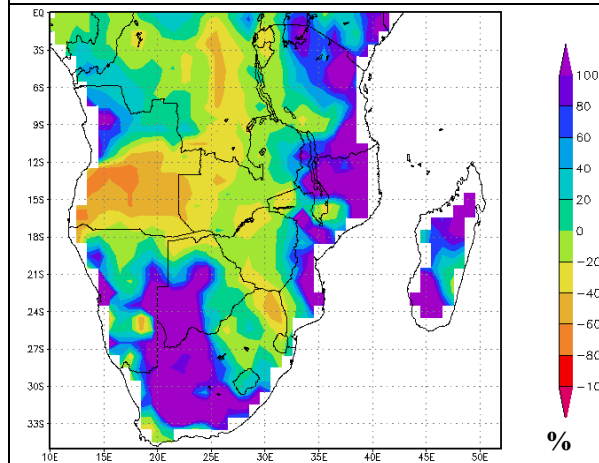


Figure 3c. Comparison of August – December rainfall **departures** with the same months during the **1992** El Niño event, i.e., normalized to show  $(2002 - 1992)$  percent difference. Source: NASA-DAAC.

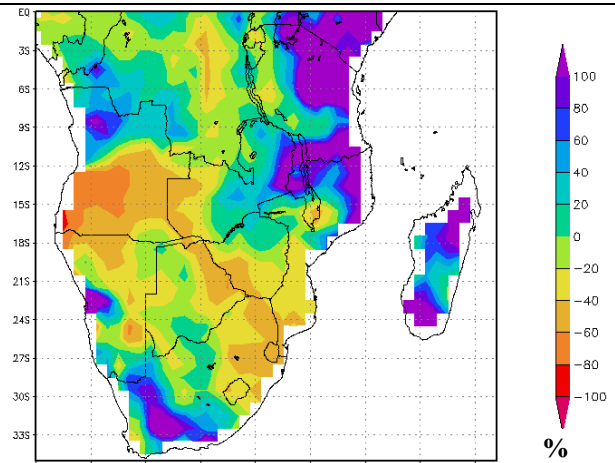


Figure 3d. Comparison of August – December rainfall **departures** with the same months during the **1987** El Niño event, i.e., normalized to show  $(2002 - 1987)$  percent difference. Source: NASA-DAAC.

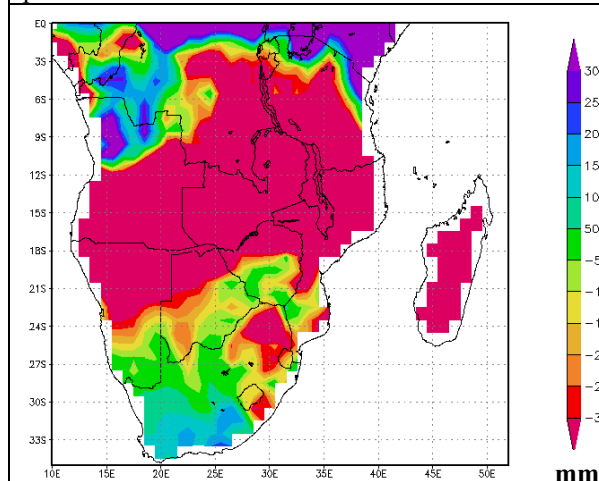


Figure 3e. Comparison of August – December rainfall **accumulations** with “normal” climate, i.e., the same months 1950–1999 that were *not* influenced by either El Niño or La Niña events. Source: NASA-DAAC.

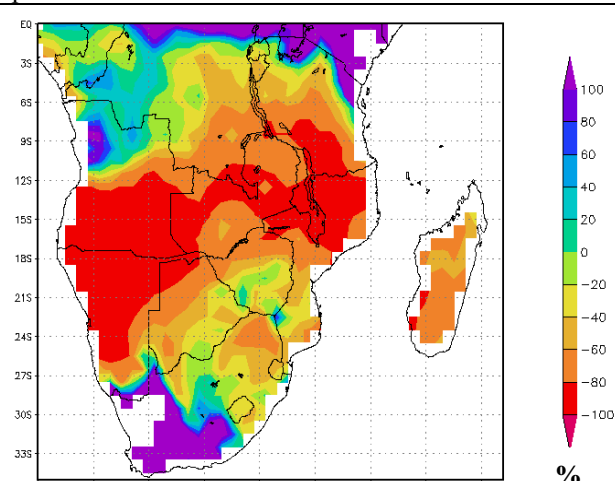
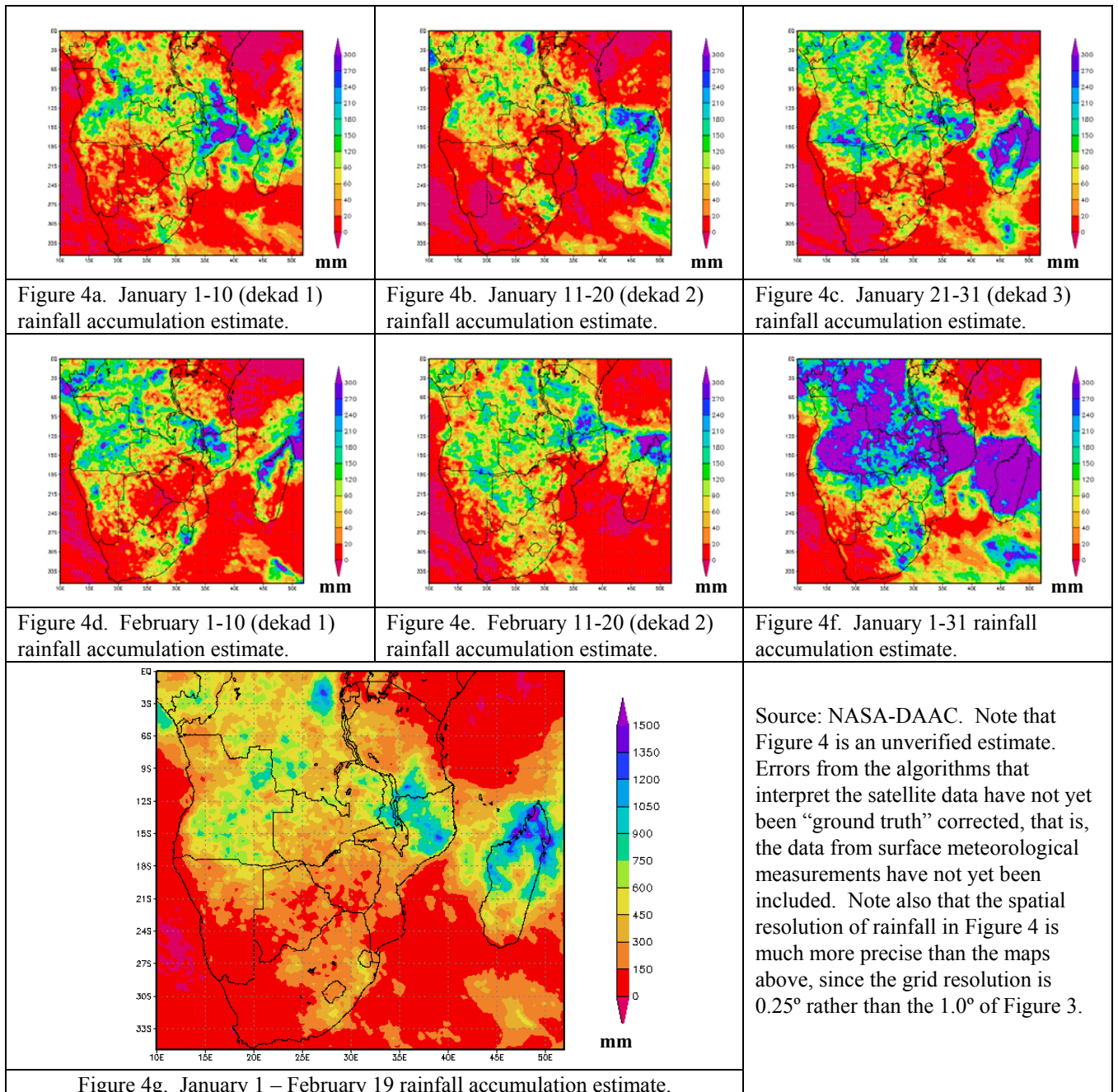


Figure 3f. August – December 2002 rainfall **departures**:  $[(\text{rainfall Aug-Dec 2002}) - (\text{mean rainfall Aug-Dec 1950-1999, non-El Niño/La Niña months})]$ . Source: NASA-DAAC.

### January – Mid-February 2003 Preliminary Estimates: Flooding in Northern Mozambique

Rainfall accumulation estimates for January – mid-February’s dekads are shown in Figures 4a-4e. The effects of tropical cyclone Delfina’s landfall over northern Mozambique around New Year’s Day are visible in Figure 4a. Northern Mozambique and much of Malawi received substantial rains during all dekads, especially at the end of January and beginning of February when the remnants of cyclone Fari moved inland (Figures 4c and 4d). Conversely, the remainder of the EMOP region as well as northern Tanzania and northwestern Angola received scant rainfall during these 50 days, with portions of southern Zimbabwe remaining very dry.



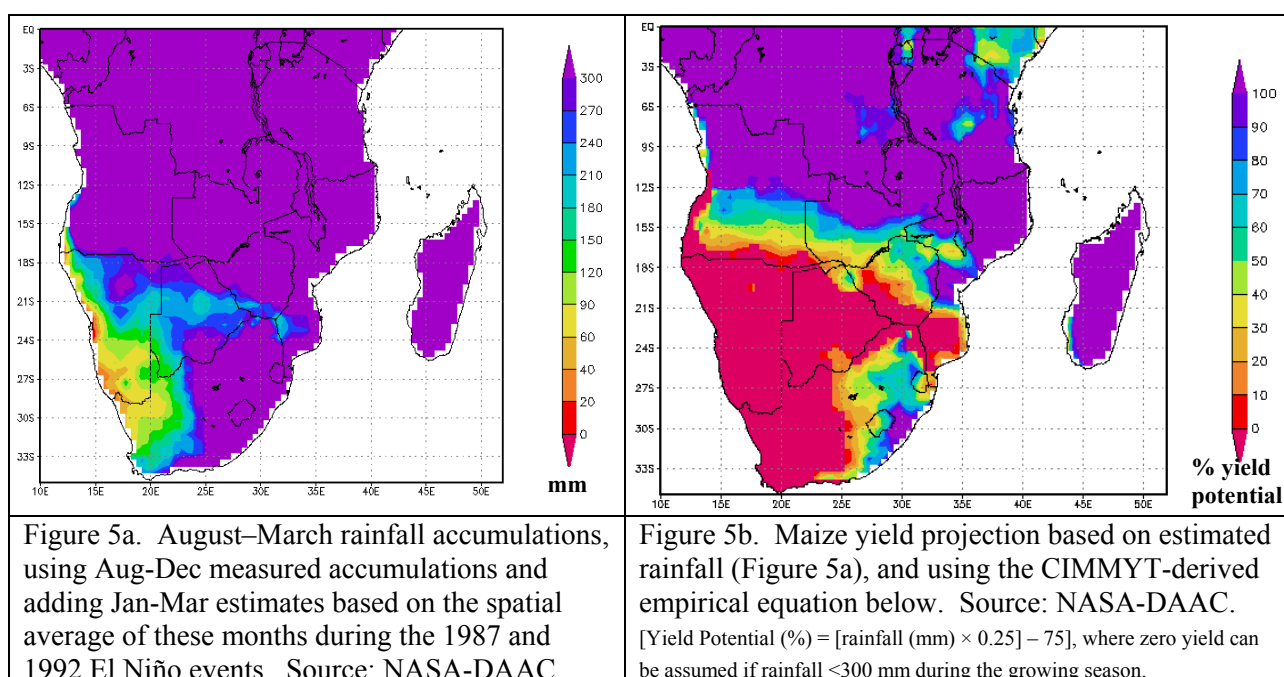
Indian Ocean sea-surface temperatures generally remain above normal, and since upper-level winds are favorable, conditions are conducive for further tropical cyclone formation over the Indian Ocean for the next several weeks. The high pressure system that is leading to drought over the central portions of the EMOP area is also partially responsible for the excessive rainfall seen in northern Mozambique and Malawi, since its winds continue to funnel moisture into the region and daytime



heating leads to daily thunderstorms. These rains have by now resulted in thoroughly saturated soil conditions, and any additional precipitation is very likely to lead to further flooding and crop losses.

### ***Crop Forecast for the March-April 2003 Harvest***

Based on the similarity in magnitude of the current El Niño event with those of 1986/87 and 1991/92, WFP offers a spatial forecast for the entire 2002/2003 growing season (Figure 5a). Originating with measured rainfall accumulations, and after adding the forecast for total growing-season rainfall, it is possible to predict maize yield potential (i.e., departures from the yield expected during perfect growing conditions). Maize yield potential is shown in Figure 5b, which depicts yield declines in southern Zambia, nearly all of Zimbabwe, southern and parts of central Mozambique, eastern Swaziland, and parts of western Lesotho. No rainfed maize can be expected in either Botswana or Namibia this year. A band across the southernmost maize zone in Angola will see reduced yields.



WFP therefore expects the need for emergency food assistance to continue and grow during 2003.

Questions may be directed to the author of this report via email, [Lenard.Milich@WFP.org](mailto:Lenard.Milich@WFP.org). The next Bulletin will be completed in approximately three weeks.